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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,542	02/28/2002	Geoffrey M. Wahl	SALK1790-6 (088802-3457)	2411

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EXAMINER	
BERTOGLIO, VALARIE E	

ART UNIT	PAPER NUMBER
1632	

DATE MAILED: 09/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/086,542	WAHL ET AL.	
	Examiner	Art Unit	
	Valarie Bertoglio	1632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02/28/2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Applicant's amendment filed 07/26/2004 has been entered. Claims 12 and 13 have been amended. Claims 1-19 are pending and are under consideration in the instant office action.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

The rejection of claims 1-19 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 5,677,177 is maintained for reasons of record set forth on pages 2-3 of the previous office action mailed 02/24/04.

Applicant has argued that the claims of '177 are clearly not drawn to mammalian cells but are drawn to a composition that may be used to effect recombination in mammalian cells.

In response, the claims of '177 are drawn to a composition that effects recombination in mammalian cells comprising an FLP recombinase and a DNA comprising an FRT site. The claims encompass the recombinase and the DNA themselves, as well as when they are in the cells in vitro or in vivo. Therefore, for example, claim 1 of '177 encompasses claim 3 of the instant invention.

Applicant has argued that the claims of '177, drawn to a composition, and the transgenic non-human mammal claims were placed into separate groups in the restriction of the parent application 07/666,258 and have thus been deemed as patentably distinct by the PTO.

In response, the restriction of claims 1-59 of '177 includes both cells and animals is group I, thereby including both the compositions of the instant application and '177 in the same invention. Therefore, Applicant's argument that the claims of '177 and the instant invention have been deemed patentably distinct by the PTO is not persuasive and the rejection is maintained for reasons of record.

Claim Rejections - 35 USC § 112-1st paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The rejection of claims 1-19 under 35U.S.C. 112, first paragraph as failing to meet the enablement requirement set forth on pages 4-12 of the previous office action mailed 02/24/2004 is withdrawn in light of Applicant's arguments and amendments to the claims. Applicant has demonstrated at least one enabled use for the claimed transgenic non-human mammal. Further support for the claimed invention is provided by the post-filing art, for example, see Dymecki, 1996). However, a new grounds of rejection is present below.

Claims 1-19 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a transgenic non-human mammal wherein the mammal contains at least one FLP recombination target site in its genomic DNA wherein the FLP recombination target site comprises two 13-base pair repeats as set forth by the first 13 and last 13 base pairs of SEQ

ID NO:3, and separated by an 8-base pair random spacer, does not reasonably provide enablement for any FLP recombination target site sequence as encompassed by the claims. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The specification fails to enable the full scope of the claims in making the claimed transgenic, non-human mammals wherein the FLP recombination target site sequence differs from that of SEQ ID NO:3 in any position other than those within the 8 base pair spacer that separates the 13 base-pair repeats. The scope of the claims broadly encompasses FLP recombination target site sequences that have an altered 13 base-pair repeat sequence. However, the specification does not provide any guidance correlating to altering the 13 base-pair repeats.

The specification teaches a very specific 13 base-pair sequence that flanks an 8 base-pair spacer of which the sequence is not critical (Refer to paragraph 0028). The specification fails to teach any other FLP recombination target site sequence such as variations in the 13 base-pair repeats. Claim 11 specifically claims functional equivalents of SEQ ID NO:3. As set forth above, it is not sufficent to define the encompassed FLP recombination target site sequences by their principal biological properties. While the specification is enabling for altering the 8 base-pair spacer sequence, the specification does not enable the skilled artisan to envision the functional equivalents made through altering the sequence of the 13 base-pair repeats or providing an unrelated sequence that does not share the critical homology with SEQ ID NO:3. as broadly encompassed by the claims. The specification does not teach which bases can be altered or how they can be altered to maintain the activity of the FLP recombination target site. 35 U.S.C. § 112

requires that the scope of the claims must bear a reasonable correlation to the scope of enablement provided by the specification to persons of ordinary skill in the art. In re Fisher, 166 USPQ 18, 24 (CCPA 1970).

A gene is a chemical compound, albeit a complex one, and it is well established in our law that conception of a chemical compound requires that the inventor be able to define it so as to distinguish it from other materials, and to describe how to obtain it. See Oka, 849 F.2d at 583, 7 USPQ2d at 1171. Conception does not occur unless one has a mental picture of the structure of the chemical, or is able to define it by its method of preparation, its physical or chemical properties, or whatever characteristics sufficiently distinguish it. It is not sufficient to define it solely by its principal biological property, e.g., FLP recombination target site, because an alleged conception having no more specificity than that is simply a wish to know the identity of any material with that biological property. The courts have held hold that when an inventor is unable to envision the detailed constitution of the claimed sequence so as to distinguish it from other materials, as well as a method for obtaining it, conception has not been achieved until reduction to practice has occurred, i.e., until after the genus has been isolated. Amgen Inc. v. Chugai Pharmaceutical Co. Ltd., 18 USPQ2d 1016, 1021 (Fed. Cir. 1991).

In view of the lack of guidance, working examples, breadth of the claims, the level of skill in the art and state of the art at the time of the claimed invention was made, it would have required undue experimentation to determine how to make the claims transgenic non-human mammals comprised the broad genus of FLP recombination target sites encompassed by the claims.

Claim Rejections - 35 USC § 112-2nd paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2,3,9,10,12,13-15, and 17-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is unclear because of the phrase "one or more genes of interest". It is not clear how a FLP recombination target site can be positioned in more than one gene. Accordingly, the claim should be limited to a gene". It is also unclear how a randomly placed FLP recombination target site can be in a gene of interest because it is not known that the gene is of interest. It is not clear what makes the gene "of interest". The term implies gene targeting. Claims 9, 12, 13 depend from claim 2 and refer to the "gene of interest". Claims 10 and 17-19 also depend from claim 2.

Claim 3 is unclear as written. The claim states that the mammal comprises "a nucleotide sequence encoding, and capable of expressing". It is unclear how a nucleotide sequence can be capable of expressing a gene product. Claim 15 depends from claim 3.

Claim 13 is unclear because it refers to "said gene of interest" however it is not clear if it is referring to the first gene of interest or the second gene of interest. Claim 14 depends from claim 13.

Conclusion

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Valarie Bertoglio whose telephone number is (571) 272-0725. The examiner can normally be reached on Mon-Thurs 5:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (571) 272-0804. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Valarie Bertoglio
Examiner
Art Unit 1632

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